

REMARKS/ARGUMENTS

Favorable reconsideration of this application, as presently amended and in light of the following discussion, is respectfully requested.

Claims 1-8 remain active in this case, Claims 1, 3, and 6 having been amended, Claim 2 having been canceled by the present amendment, and Claims 9-19 having been withdrawn from consideration as directed to a non-elected invention.

In the outstanding Office Action, Claims 1-8 were rejected under 35 U.S.C. §103(a) as being unpatentable over Hikita et al. (U.S. Patent No. 4,792,939, hereinafter “Hikita”) in view of Tomura et al. (U.S. Patent No. 5,150,282, hereinafter “Tomura”) and in further view of Weber (U.S. Patent No. 5,335,147).

In light of the outstanding ground for rejection, Claim 1 has been amended to clarify the claimed invention and thereby more clearly patentably define over the cited prior art. To that end, amended Claim 1 further defines the processor unit of the claimed wireless communication apparatus as monolithically integrating the receiving and transmitting processors and as having a ground region placed between the receiving and transmitting processors on a semiconductor chip, wherein the ground region is electrically connected to the first partition separating the receiving and transmitting amplifier and the second partition which faces the first partition across the processing unit. Support for the changes to Claim 1 is provided at page 13, line 2 through page 14, line 1; page 15, line 24 through page 16, line 2; Figures 2 and 6; and canceled Claim 2. No new matter has been added.

As above presented, amended Claim 1 defines Applicant’s invention as follows:

1. A wireless communication apparatus, comprising:
a mounting substrate including:
a duplexer connected to an antenna terminal;
a receiving amplifier and a transmitting amplifier individually connected to the duplexer;
a processor unit having a receiving processor and a transmitting processor respectively connected to the receiving and transmitting amplifiers

in a region spaced from the receiving and transmitting amplifiers, **wherein the processor unit monolithically integrates the receiving and transmitting processors and a ground region placed between the receiving and transmitting processors on a semiconductor chip; and**

a baseband processor connected to the processor unit;

a shield case configured to cover the receiving amplifier, the transmitting amplifier, and the processor unit; and

a shield partition of a conductor provided in contact with the shield case, including,

a first partition provided from a top panel of the shield case to a surface of the mounting substrate so as to separate the receiving and transmitting amplifiers by extending from an end of the shield case, and

a second partition provided from the top panel to the surface of the mounting substrate by extending from another end of the shield case so as to face the first partition across the processing unit; and

a cut provided from the top panel in the shield case so as to overlay the processor unit between the first and second partitions,

wherein the ground region is electrically connected to the first and second partitions. (Emphasis added).

The four highlighted features recited in Claim 1 are believed patentably distinguishing, and are repeated as follows:

- (1) the processor unit monolithically integrates the receiving and transmitting processors and a ground region placed between the receiving and transmitting processors on a semiconductor chip;
- (2) a shield partition of a conductor provided in contact with the shield case, including,
 - a first partition provided from a top panel of the shield case to a surface of the mounting substrate so as to separate the receiving and transmitting amplifiers by extending from an end of the shield case, and
 - a second partition provided from the top panel to the surface of the mounting substrate by extending from another end of the shield case so as to face the first partition across the processing unit;
- (3) a cut provided from the top panel in the shield case so as to overlay the processor unit between the first and second partitions; and
- (4) the ground region is electrically connected to the first and second partitions.

Hikita discloses a duplex radio communication transceiver including a duplexer 102 connected to an antenna 101, a receiving low-noise amplifier 108 and a power amplifier 119,

and a base band circuit 112, formed on the alumina substrates on the metallic substrate 201 (see column 3 line 47- column 4 line 4, column 4 line 53-66, FIGs. 1 and 2), which are electromagnetically shielded (see column 8, line 67-column 9, line 2), and acoustic surface wave filter fixed on the fixture 901 between the driving amplifier part 504 and the power amplifying part 503 (see column 9, line 3-13, and FIG. 9). However, the driving amplifier part 504 and the power amplifying part 503 are merely mounted on the heat sink substrate 501 made of a copper plate (see column 7, line 15-27, and FIG. 5). Thus, it is respectfully submitted that in Hikita, there is no disclosure or suggestion of features (1) – (4) above identified as being patentably distinguishing of amended Claim 1.

Tomura discloses an electromagnetic shielding structure for a portable phone including a plurality of ribs 28 each of which has a long groove 29 for separating the high-frequency functional circuits mounted on the printed-circuit board 21 (see column 3, line 20-24, and FIG. 3) and the shielding member 30 press-fitted in the long groove 29 of the rib 28 of the rear case 24, thereby, enabling the electromagnetic shielding of one high-frequency functional circuit from other high-frequency functional circuits (see column 3, line 24-26, column 4, line 3-10, and FIGs. 3 to 5). However, it is respectfully submitted that in Tomura, as in Hikita, there is no disclosure or suggestion of features (1) – (4) above identified as being patentably distinguishing of amended Claim 1.

Weber discloses the internal shield 46, which contacts top cover 34, having vertical shield 86 electrically connected to conductive perimeter 32 that surrounds a predetermined portion of the electronics circuitry on the printed circuit board 22 to isolate a circuit from within the top cover 34 (see column 6, line 37-48). Weber also discloses that the internal shield 46 has spaces to establish trace signal opening such as edge 100 that differs in height from edge 102 by a distance sufficient to permit the communication of desired signal traces. However, it is respectfully submitted that in Weber, as in Tomura and Hikita, there is no

disclosure or suggestion of features (1) – (4) above identified as being patentably distinguishing of amended Claim 1.

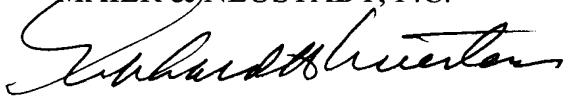
Therefore, it is respectfully submitted that Hikita, Tomura, and Weber are substantially deficient in disclosing the claimed structure and even in combination cannot suggest the effectiveness of the claimed invention, which make possible to suppress the direct interference from spurious signals emitted from the transmitting amplifier to the receiving amplifier and electromagnetic disturbance waves leaking from the transmitting unit to the receiving unit, and to reduce electromagnetic disturbance waves leaking from the transmitting unit to the receiving unit, since the gap between the processor unit and each of the first partition, the second partition, and the cut of the shield partition is suppressed to a level corresponding to the assembly margin, and to absorb the leakage signal from the RF transmitting signal or the baseband transmitting signal transmitted in the transmitting processor.

In view of these deficiencies in the cited Hikita, Tomura, and Weber references, it is respectfully submitted that the outstanding ground for rejection under 35 U.S.C. §103(a) of Claim 1, as well as remaining pending dependent Claims 3-8, has been overcome and withdrawal thereof is respectfully requested.

Consequently, in view of the present amendment and in light of the above comments, no further issues are believed to be outstanding, and the present application is believed to be in condition for allowance. An early and favorable action to that effect is respectfully requested.

Respectfully submitted,

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